

REMARKS

Reconsideration of the application is requested in view of the amendments above and the remarks below. Claims 11-20 were cancelled and new Claims 21-30 were added. The amendments made to the claims above have been made to address wording issues, not for purposes related to patentability.

Rejection of Claims 11, 16 and 18 Under 35 USC 112

The Office Action rejected Claims 11, 16 and 18 under 35 USC 112, second paragraph, on the grounds that the phrase "and/or" was ambiguous. Claims 11-20 were cancelled and new Claims 21-20 were added. The amendments made above address these issues and the rejection is believed overcome. Reconsideration is requested.

Rejection of Claims 11-20 Under 35 USC 102

The Office Action rejected Claims 11-20 under 35 USC 102 over U.S. Pat. No. 5,248,450 (Metzner) or U.S. Pat. No. 5,990,143 (Ludwig). The rejection should be withdrawn in view of the amendments above and the remarks below. It is well-established that a 35 USC 102 rejection must rest upon the literal teachings of the reference and that the teachings must disclose every element of the claimed invention in as complete detail as is contained in the claim (See. *Jamesbury Corp v. Litton Industrial Products, Inc.* 225 USPQ, 253, 256 (CAFC 1985); *Kalman v. Kimberly-Clark Corp* 218 USPQ 781, 789 (Fed. Cir. 1983)). Although the reference need not disclose the invention actually being made, the disclosure must be sufficiently detailed so that it satisfies the description requirement of 35 USC 102 (See *In re Donohue*, 226 USPQ 619 (CAFC 1985) (Reference "must sufficiently describe the claimed invention to have placed the public in possession of it".)). The reference can be held to anticipate only that which is expressly disclosed and can be obtained by routine experimentation (*In re Sheppard* 144 USPQ 42 (CCPA 1964)). The reference must meet the enabling requirement of 35 USC 102 such that one of ordinary skill in the art could gain possession of the claimed subject matter without undue experimentation. If an invention is anticipated under inherency, it is unquestioned that the invention must flow as a necessary conclusion from the prior art, not

just a possible one. The fact that the prior art *may* possibly have the same features as the claimed invention will not substantiate a finding of inherency (*In re Oerlich*, 212 USPQ 323, 326 (CCCPA 1981)). Also, if a chemical compound is inherently disclosed in a reference, the USPTO must provide factual and technical grounds for establishing that the claimed invention inherently flows from the teachings of the prior art (*Ex parte Levy* 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Int 1990)). It cannot be overemphasized that 35 USC 102(b) only deals with the literal teachings of a reference, not theoretical maybes or unrealized possibilities. Neither Metzger nor Ludwig anticipate Applicants' invention.

Applicants' Invention

Applicants' invention is directed to an aqueous system that comprises hydrolysis-sensitive fungicidal active compounds, hydrolysis-sensitive fungicidal active compounds, hydrolysis-sensitive bactericidal active compounds, hydrolysis-sensitive insecticidal active compounds, and mixtures thereof, and one or more binders having a pH \leq 7 that are selected from the group consisting of (i) alkyd resins based on vegetable oils and (ii) acrylate dispersions, and thereby stabilizing the component. In other embodiments, Applicants' invention is also directed to methods (i) for stabilizing hydrolysis-sensitive fungicidal, bactericidal, and/or insecticidal active compound in an aqueous system and (ii) for protecting aqueous systems against microbial infestation.

Applicants' invention is based on the surprising discovery that compounds that are sensitive to hydrolysis can be stabilized by using specific binder systems (p. 1, ll. 22-23). Examples of preferred binders include alkyd/maleic anhydride copolymers, alkyd/modified linseed oil, alkyd resins, alkyd resin/soya oil, and linseed oil in combination with an acrylate dispersion (Spec., p. 2, ll. 14-16). Applicants' aqueous systems preferably contain from about 0.001 to 90 percent by weight of an active compound and from 3 to 80 percent by weight of binder (Spec., p. 2, ll. 21-25). Preferred examples of water-based systems include water-based paints, e.g., emulsion paints and antifouling paints, as well as wood preservatives such as wood preservative varnishes and primers (Spec., p. 2, ll. 27-29). Applicants' aqueous

systems are advantageous over known systems in that the active compounds are stable for long periods against hydrolysis and decomposition, both in an acidic and in a neutral medium (Spec., p. 3, ll. 7-9).

A. Rejection Under 35 USC 102 Over Metzner

The literal teachings of Metzger do not disclose every element of the claimed invention in as complete detail as is contained in Claims 21-30. Metzner is directed to an agent or concentrate for the preservation of wood and wood materials that includes a fungicide 1-aryl-3-hydroxy -3-alkyl-4-(1,2,4-triazol-1-yl)-butane derivative of the formula shown at Column 1, or an acid addition salt of the derivative or a metal salt complex of the derivative or a mixture thereof; a pyrethroid insecticide and more than 40% by weight of a mixture containing at least one constituent selected from the group consisting of a solvent, diluent, organic chemical binder, fixing agent, plasticizer, processing aid, dye, pigment, dye mixture and pigment mixture (Col. 1, l. 48 to Col. 2, l. 16). Such teachings do not anticipate Applicants' invention. The solvent and/or diluent comprises an organic chemical solvent or solvent mixture and/or an oily or oil-like organic chemical solvent or solvent mixture of low volatility and/or a polar organic chemical solvent or solvent mixture and/or water and at least one emulsifier and/or wetting agent (Col. 2, ll. 23-28). Such teachings do not anticipate Applicants' invention.

Even if Metzner discloses that water can be used with an emulsifier as a solvent, Metzner discloses compounds that contain water and an emulsifier in a "ready-to-use" composition (See. Col. 3, ll 60+). Metzner's disclosures of a "ready-to-use" composition do not show an aqueous system in which the active compounds are stable for long periods against hydrolysis and decomposition, both in an acidic and in a neutral medium. Further, Metzner presents literally a laundry list of possible active ingredients, such that one of ordinary skill in the art would have had to pick and choose from an enormous number of possibilities. It is basic patent law that when a claimed invention is not identically disclosed in a cited reference under 35 U.S.C. 102, but instead requires the skilled artisan to pick and choose among a number of different options disclosed by the reference, then the reference does not

anticipate the claimed invention (See *Akso N.V. v. International Trade Commission*, 1 U.S.P.Q 2d (CAFC 1986); *Appl. of Arkley*, 455 F.2d 586 (CCPA 1972)). Reconsideration is requested.

B. Rejection Under 35 USC 102 Over Ludwig

Ludwig also does not anticipate Applicants' invention. Ludwig is directed to a composition that is prepared by combining at least one azole fungicide in the form of the free base and at least one quaternary ammonium fungicide (See Col. 2, ll. 16-67). The weight ratio of azole fungicide to quaternary ammonium fungicide is preferably 1:99 to 99:1 (Col. 3, ll. 23-24). Such teachings do not anticipate Claims 21-30. Ludwig teaches that to prepare aqueous formulations, the active compounds are incorporated individually or as an active compound combination, such as in the form of powders, granules, pastes or concentrated solutions, suspensions or emulsions, into water by simple mixing, and are then present in the form of an aqueous suspension, solution or emulsion (Col. 3, ll. 26-31). Such teachings do not anticipate Applicants' invention.

Even if Ludwig discloses fluorfolpet as a possible active ingredient, it discloses such an active ingredient as one of many "mixing partners" at Column 5, lines 55+ such that one of ordinary skill in the art would have had to pick and choose from many possibilities. The literal teachings of Ludwig simply do not disclose every element of the claimed invention in as complete detail as is contained in Claims 21-30. Reconsideration is requested.

Rejection of Claims 11-20 Under 35 USC 103

The Office Action rejected Claims 11-20 under 35 USC 103 over Metzger or Ludwig. In view of the amendments above, the remarks below are directed to new Claims 21-30.

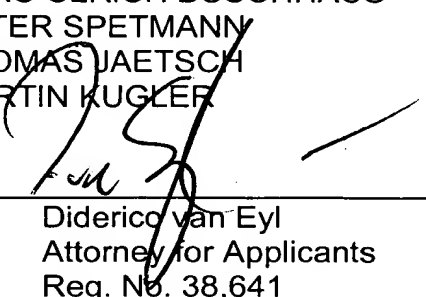
To establish a *prima facie* case of obviousness, the USPTO must satisfy all of the following requirements. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or to combine references. *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir.

1988). Second, the proposed modification must have had a reasonable expectation of success, as determined from the vantage point of one of ordinary skill in the art at the time the invention was made. *Amgen v. Chugai Pharmaceutical Co.* 18 USPQ 2d 1016, 1023 (Fed Cir, 1991), *cert. denied* 502 U.S. 856 (1991). Third, the prior art reference or combination of references must teach or suggest all of the limitations of the claims. *In re Wilson*, 165 USPQ 494, 496, (CCPA 1970). The rejection does not meet these requirements.

Applicants' invention is based on the surprising discovery that active compounds that are sensitive to hydrolysis can be stabilized by using specific binder systems. Applicants' aqueous systems are advantageous over known systems in that the active compounds are stable for long periods against hydrolysis and decomposition, both in an acidic and in a neutral medium. Metzger and Ludwig discuss numerous compounds such that one of ordinary skill in the art would have had to pick and choose from many possibilities. Neither Metzger nor Ludwig, singly or in combination, teaches Applicants' invention. Such facts compel the conclusion that neither Metzner nor Ludwig, singly or when combined, do not contain teachings that would have motivated one of ordinary skill in the art to modify the respective invention of the combined teachings and expect Applicants' invention would be successful. Reconsideration is requested.

In view of the foregoing amendments and remarks, allowance of Claims 21-30 is earnestly requested.

Respectfully submitted,
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CHANGES MADE TO THE SPECIFICATION AND CLAIMS

IN THE CLAIMS:

Claims 11-20 have been cancelled and new Claims 21-30 have been added:

--21. An aqueous system comprising:

(A) a component selected from the group consisting of hydrolysis-sensitive fungicidal active compounds, hydrolysis-sensitive fungicidal active compounds, hydrolysis-sensitive bactericidal active compounds, hydrolysis-sensitive insecticidal active compounds, and mixtures thereof, and

(B) one or more binders having a $\text{pH} \leq 7$ that are selected from the group consisting of (i) alkyd resins based on vegetable oils and (ii) acrylate dispersions.

22. An aqueous system according to Claim 21, wherein the binder has a $\text{pH} \leq 5$.

23. An aqueous system according to Claim 21, wherein the binder has a $\text{pH} \leq 3$.

24. An aqueous system according to Claim 21, wherein the active compound has a functional group $\text{N-S-CCl}_2\text{X}$ wherein X represents halogen, $\text{C}_1\text{-C}_4$ alkyl, or halogen-substituted $\text{C}_1\text{-C}_4$ alkyl.

25. An aqueous system according to Claim 21, wherein the active compound is folpet, captan, captafol, dichlofluanid, tolylfluanid, fluorfolpet, or a mixture thereof.

26. A method for stabilizing a component selected from the group consisting of hydrolysis-sensitive fungicidal active compounds, hydrolysis-sensitive fungicidal active compounds, hydrolysis-sensitive bactericidal active compounds, hydrolysis-sensitive insecticidal active compounds, and mixtures thereof, in an aqueous system comprising incorporating into the aqueous system one or more binders, having a $\text{pH} \leq 7$, that are selected from the group consisting of (i) alkyd resins based on vegetable oils and (ii) acrylate dispersions, and thereby stabilizing the component.

27. A method according to Claim 26, wherein the binder has a $\text{pH} \leq 5$.

28. A method for protecting an aqueous system against microbial infestation comprising incorporating into the aqueous system (A) a component selected from the group consisting of hydrolysis-sensitive fungicidal active compounds, hydrolysis-sensitive fungicidal active compounds, hydrolysis-sensitive bactericidal active compounds, hydrolysis-sensitive insecticidal active compounds, and mixtures thereof, and (B) one or more binders, having a $\text{pH} \leq 7$, that are selected from the group consisting of (i) alkyd resins based on vegetable oils and (ii) acrylate dispersions, and thereby stabilizing the system.

29. A method according to Claim 28, wherein the binder has a $\text{pH} \leq 5$.

30. A binder comprising:

(A) a component selected from the group consisting of (i) alkyd resins based on vegetable oils and (ii) acrylate dispersions and having a $\text{pH} \leq 7$ and

(B) a component selected from the group consisting of hydrolysis-sensitive fungicidal active compounds, hydrolysis-sensitive fungicidal active compounds, hydrolysis-sensitive bactericidal active compounds, hydrolysis-sensitive insecticidal active compounds, and mixtures thereof.--